

7. SOME OBSERVATIONS ON BREEDING OF THE CHINESE  
WHITEBREASTED WATERHEN *AMAURORNIS PHOENICURUS*  
*CHINENSIS* (BODDAERT)

The Chinese Whitebreasted Waterhen *Amaurornis phoenicurus chinensis* (Boddaert), locally known as jal kukkari, has become quite a common bird in the Punjab with the spread of rice cultivation during the last few years. In spite of its common occurrence throughout the northern India, Sikkim, Bhutan duars, Assam, Nepal and West Pakistan, very little is known about its breeding habits (Ali and Ripley 1969). Even the incubation period had not been recorded so far.

We recorded some observations on a nest of this bird at Ludhiana (30°56'N, 75°52'E), Punjab and have been able to add some new information. A brief account of the observation follows:

*Nest:* The nest was located on a small mango (*Mangifera indica* Linnaeus) tree at about 1130 hr on 23 June 1981 near a stocking pond at the Fisheries Research Complex of the Punjab Agricultural University. It was built among branches of the tree 3.73 m high from the ground level. The material used to construct the nest was dry twigs, feathers, grass, dry leaves and pieces of polythene. Some thin iron wires and two comparatively thicker spokes of cycle wheel were entangled into the nest to strengthen it.

The nest was a cone-shaped structure having a cup at the top. The length (from lower to upper end) and diameter of the cone were 17 cm and 28 cm respectively. The cup was 8 cm deep and 14 cm in diameter. After completion of the clutch, the cup of the nest was lined with a layer of grass which decreased its depth by about 1 cm.

*Eggs:* The eggs are oval with light pink background and blotches of light brown, dark

brown and light violet colour. The blotches are denser on the blunt ends of the eggs.

On 23 June, 1981, when the nest was first discovered there were four eggs in it. These were marked 1 to 4 with a lead pencil, measured with vernier callipers and weighed with a two-pan field balance true to 100 mg. Another egg was laid on 24 June and the clutch of six eggs was completed on 25 June. Earlier workers have reported the clutch size of this bird to be four to eight (Baker 1929, Whistler 1949, Ali and Ripley 1969).

The data on size and weight of the eggs and the dates of their laying and hatching have been shown in Table 1. Average size

TABLE 1  
SIZE, WEIGHT AND THE DATES OF LAYING AND HATCHING  
OF EGGS

| Egg No. | Length (mm) | Breadth (mm) | Weight (g) | Date of laying | Date of hatching |
|---------|-------------|--------------|------------|----------------|------------------|
| 1       | 37.5        | 28.7         | 17.3*      | ?              | 12 July          |
| 2       | 37.9        | 29.0         | 17.5*      | ?              | 12 July          |
| 3       | 38.8        | 28.5         | 16.9*      | ?              | 12 July          |
| 4       | 39.9        | 29.2         | 18.5*      | ?              | 13 July          |
| 5       | 38.9        | 28.5         | 17.4       | 24 June        | 13 July          |
| 6       | 39.5        | 28.3         | 17.2       | 25 June        | 14 July          |
| Av.     | 38.75       | 28.70        | 17.47      | —              | —                |
| S.D.    | 0.92        | 0.34         | 0.55       | —              | —                |

S.D. = standard deviation.

\* = not exactly fresh weight as these eggs were weighed on 23 June.

Incubation period on the basis of last egg = 19 days.

of 6 eggs was  $38.75 \pm 0.92 \times 28.70 \pm 0.34$  mm. Earlier, Baker (1929) reported average size of 100 eggs of this bird as  $40.5 \times 29.7$  mm. Average weight of the eggs was  $17.47 \pm 0.55$  g. The first four eggs could not be weighed afresh. This, however, does not seem to in-

roduce error in the average egg weight because the birds probably started incubation after laying of the third egg (i.e., on the day the fourth egg was laid) as revealed by the hatching of first three chicks on single day (12 July). The weight of eggs starts decreasing only when the parents supply heat during incubation .

*Incubation Period:* Sixth egg of the clutch, which was laid on 25 June, hatched on 14 July. Therefore, the incubation period (on the basis of last egg of the clutch) was 19 days.

*Newly Hatched Chick:* The newly hatched chick of the Chinese Whitebreasted Waterhen is precocial and nidifugous. It is covered with silky black down feathers throughout the body excepting legs and bill. The bill is greyish black with sides of about 1/3rd anterior part of upper mandible and distal half of lower mandible whitish in colour. At the tip of the upper mandible is present a pure white egg tooth. Legs and feet are greyish black. The measurements of one chick at hatching were as follows: weight 11.7 g, culmen 10.5 mm, tarsus 19 mm and wing 23 mm.

*Fate of the Chicks:* It is already known that the chicks of this bird at hatching are very active (Ali and Ripley 1969). Therefore, the first hatched chicks probably leave the nest before hatching of all eggs of the clutch. According to Ali and Ripley (1969) this species usually constructs its nests either on the ground or "in the interior of a shrub or bamboo clump up to 2 to 3 metres from the ground". The present nest, however, was built among branches of a small mango tree at a height of 3.73 m. There was no vegetation at the base of this tree and the bare ground was quite hard. This unusual site of the nest and its more height from the ground proved fatal for the chicks. Three chicks which hatched on 12 July died by falling to the ground while attempting to leave the nest around noon of the same day. Two more chicks hatched and died similarly on 13 July. The sixth chick also met with the same fate on 14 July. The nesting success of the pair was, therefore, zero. Selection of the wrong nesting site seems to be the cause of reproductive failure of the pair.

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#### REFERENCES

ALI, S. AND RIPLEY, S. D. (1969): The Handbook of the Birds of India and Pakistan together with those of Nepal, Sikkim, Bhutan and Ceylon. Vol. 2, pp. 168-170. Oxford Univ. Press, Bombay, London, New York.

BAKER, E. C. S. (1929): The Fauna of British

India, including Ceylon and Burma, Birds Vol. VI, p. 24. Taylor and Francis, London.

WHISTLER, H. (1949): Popular Handbook of Indian Birds (Fourth Edition), pp. 437-438. Oliver and Boyd, Edinburgh and London.